

Abstract

A beam current sensor is composed of a cylindrical super-conductive body having a bridge unit formed on the outer diameter side wherein a beam passes through the inner diameter side. The sensor improves efficiency of creating a magnetic field from a current and can measure a beam current as 1nA. The bridge unit includes a first coil unit formed so as to have an eddy shape wound counterclockwise from the outer diameter side toward the inner diameter side; a second coil unit formed so as to have an eddy shape wound clockwise from the outer diameter side toward the inner diameter side; and a connection portion for connecting the center position of the inner diameter side of the first coil unit with the center position of the inner diameter side of the second coil.